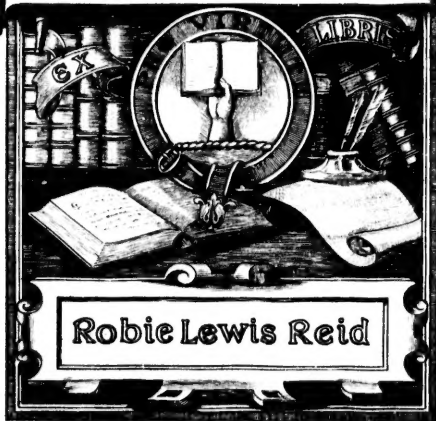


For him was lever have at hys beddes heed
 Twenty bokes, clad in blak or reed,
 Of Aristotle and hys philosophye,
 Than robes riche, or fithele, or gay sautrye.



Robie Lewis Reid

*The F. W. Howay and R. L. Reid
 Collection of Canadiana
 The University of British Columbia*

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Kelchum
THE CHIGNECTO

SHIP RAILWAY

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WILL IT PAY?

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SAINT JOHN, N. B.
J. & A. McMILLAN, PUBLISHERS, BOOKSELLERS, STATIONERS, ETC.
1887.

158,534

THE CHIGNECTO



SHIP RAILWAY



WILL IT PAY?



SAINT JOHN, N. B.

J. & A. McMILLAN, PUBLISHERS, BOOKSELLERS, STATIONERS, ETC.

1887.

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The Chignecto Ship Railway.

WILL IT PAY?

To the Editor of the Sun:

SIR, — So many people have asked me "Whether the Ship Railway will pay," it will be easier to avail myself of your columns, with your kind permission, than to reply by letter to those inquiries in detail. The interest felt in this great public work is growing so widespread that I think it will be of advantage to furnish the public with an expression of opinion on the question of its paying capabilities. I venture to say there was never a work on which more study and care have been bestowed than on this isthmian transit. The promoters have had great difficulties to overcome in the prejudice and incredulity which first beset the project, but there is now a great change in public opinion. People no longer think it impracticable. On the contrary, all intelligent people now concur in its entire feasibility, and this is a great advance, for its benefits were liable to be overlooked by confusing the commercial question with that of practicability.

With the promoters — who are all practical men — the question was not whether loaded ships could be moved by rail or be lifted from the water, for that problem had long ago been solved by actual experience and practice.

The real difficulty was how to construct this great work and carry it out on a paying basis, and to find a good line that would answer all requirements.

The time has gone by when engineers could afford to give their time and money to projects that would not stand a commercial test. The real difficulty was how to build a Ship Railway, seventeen miles long, involving very heavy work on the line itself, besides large docks, entrance channels, breakwaters, hydraulic lifts, and other expensive machinery, for a sum of money that would enable a fair return to be made on the outlay, and at the same time practicable to work at rates of tolls that would inevitably draw business and create new trade from the Gulf ports south, and also compete successfully with other channels, especially the present route by the Straits of Canso and around Cape Breton.

This economical as well as engineering problem has now been successfully overcome by patient study and perseverance, and the cost and feasibility of the work settled by the practical mode of obtaining tenders from responsible parties willing to construct and work the line considerably within the capital of the company, which is five millions of dollars.

Will it pay the country? The promoters never entertained a belief that this undertaking would pay in the early years of its working with-

out the assistance of a Government subsidy, but with that aid all doubt was set aside.

It may not be generally known that the subsidy is not a gift, but only a guarantee that in the event of the work not paying seven per cent. of net earnings on the capital of \$5,000,000, then the Government will make up any deficiency there may be on such dividend to the extent of \$170,600 per annum for twenty years.

"In case the earnings of the undertaking should exceed seven per cent. per annum upon the aforementioned capital, the Company shall pay over to the Government of Canada one-half of the surplus profit beyond the said seven per cent., until the whole of the subsidy which may then have been paid to the Company shall have been repaid to the Government by the Company." *Vide Act, 1886.*

It will thus be seen that the Government and Company are virtually partners in this undertaking until the subsidy is paid off by the Company. In the event, however, of the whole of the subsidy being payable by the Government for the twenty years, then the cost to the country will only be the sum of the subsidy, which, capitalized at four per cent., is \$2,343,000. The cost of a canal, at its lowest estimate, was \$5,650,000, which, with the interest during construction, would amount to six and a half millions of dollars. In the case of the Ship Railway, the Company will find all the capital, and the cost to the country would be \$4,500,000 less than the lowest priced canal, not counting interest.

What probability is there that the subsidy will be reduced or paid off? In reply to this question all the paying capabilities of the project are involved.

Experience has shown that public works of the character of this undertaking, when once established and proved to be safe and reliable, rapidly secure traffic, and a notable instance may be mentioned; viz., The Suez Canal, the object of which is identical with this undertaking. The number of vessels which availed themselves of this work during the first year of its existence was 486 vessels, with an aggregate tonnage of 435,911 tons; ten years later, 1,592 vessels, with a total tonnage of 3,446,431 tons; and from that period (1880) to the present time the traffic has always been increasing, until in the year 1884 the total number of vessels was 3,284, with the enormous tonnage of 8,319,967 tons. The financial results of that undertaking were proportionate to the traffic; the receipts for tolls the first year amounted to only £255,000 stg., which increased to £2,577,608 in 1884, and the net profits are now 17½ per cent. on the share capital of £8,000,000.

To come nearer home, I see by the *Daily Telegraph* of the 3rd instant that the freight which passed through the Sault St. Marie Canal in 1860 was only 400,000 tons; in 1880 it was 1,750,000 tons; and last month alone it was one million tons. The total tonnage for this year, it is estimated, will not be less than six million tons.

In like manner the promoters are confident that when once the Ship Railway is in operation the advantages will be found so great that it will meet with similar success. The coasting trade of the Dominion is rapidly increasing. According to latest official returns, out of a total of sixteen million tons there were over eight million tons of entries and

clearances in the Gulf and Bay ports alone, which would be affected by the Ship Railway. The estimate of only ten per cent. of this tonnage is surely not an extravagant one to make for the Ship Railway. The number of vessels that passed through the Straits of Canso last season was about 2,000. Therefore, assuming 800,000 tons as the traffic of the Ship Railway during the season of navigation, say 200 days, would equal only 4,000 tons a day. If the Company at once obtained that amount of traffic, there would be no subsidy to receive from the Government, for the net earnings would then be seven per cent. on the capital. But as this is not the expectation until the new route would be firmly established, it is not too much to say that one-fourth of that would be the traffic for the second year, namely, 200,000 tons, the first year being free to all. The New York Inland Navigation Commission reported in 1812 that the Erie Canal would convey as much as 250,000 tons, yet it did actually, in 1837, move one million tons. Similarly, let us hope that this very small estimate of Ship Railway traffic of 200,000 tons for the second year would be realized, as well as the estimate of DEWITT CLINTON. The subsidy would be reducible as soon as 360,000 tons were reached, and when the traffic reached 780,000 tons there would be no subsidy at all to be paid by the Government. If the traffic were a million tons, then there would be a considerable annual return to the Government to pay off the subsidy. Some people may doubt any return of the subsidy, but I have personal knowledge of an instance where \$400,000 per annum is paid by a Railway Company to the Government of Brazil, when a contract was made on similar terms. I allude to the San Paulo Railway, to which the Government gave a guarantee of seven per cent.

Will it pay shippers? The loss inflicted upon the commerce of this Dominion for lack of means of transit across the Isthmus of Chignecto is simply incalculable. Take an item of shipment from Prince Edward Island to the United States last year. There was an export from there of 859,000 bushels of potatoes, equal to about 300,000 barrels. A propeller of 500 tons would carry 3,000 barrels; therefore it would take a propeller of that size to make 100 trips to the States, which, going and returning with their freight, would be equal to 100,000 tons traffic. Then look at the lumber, fish, coal, stone, and other products that would seek this short outlet in all directions. Again, the freight from St. John to the Straits of Northumberland is \$2.50 per ton, while the freight to the head of the Bay is only \$1 per ton. There is a loss, therefore, of at least \$1 per ton on all freight that would come from the Gulf by the Gut of Canso. On the estimate of the Company there is an annual loss to the country of at least half a million dollars for want of this means of communication.

Will it pay shipowners? Steamers now ply between Charlottetown and Boston, and take a whole week to perform the round trip. By the Ship Railway they could make two trips in a week, thus doubling their capital. For sailing vessels it would be quadrupling their capital by increasing their business and by saving of time, which the competition of steamers and railways now prevents.

Will it pay the Company? The promoters have an abiding faith in their undertaking. Who can foretell its possibilities? Examine the map, measure the distance to be saved, and then consider the amount of shipping affected, information which can be obtained from the official trade and navigation returns. They are certain, at least, of the interest of their money for twenty years from the subsidy alone, if it only pays working expenses, of which there cannot be any doubt. They are confident that it will pay seven per cent. on the whole capital in a few years, and ultimately, when the traffic is fully developed, there will be still greater returns. The only doubt in the minds of the English associates is that the railway will not be adequate for the traffic that will present itself. As a proof of their belief, the designs for the docks have been made not only sufficient to hold at one time six steamers of 1,000 tons each, but are to be capable of enlargement for double that number. The revenue from repairs to vessels would be large, as there is no better kind of graving dock than a Ship Railway. Vessels can be shunted to one side for repairs without interfering with the traffic.

I have endeavored to show that it will pay the country; that there is a reasonable hope of the guarantee not being required for the whole term of twenty years; that it will pay shippers and shipowners; and that it will, or ought, to pay the Company very handsomely indeed; but the latter question chiefly concerns the Company itself.

I am, sir, your obedient servant,

H. G. C. KETCHUM.

Fredericton, Aug. 5th, 1887.

The Baie Verte Canal.

WOULD IT PAY?

To the Editor of the Sun :

SIR,—Having given my views on the paying prospects of the Ship Railway, I propose now to treat the subject of a Ship Canal in a similar manner.

The engineering and economic difficulties to contend with in a Canal are even more formidable than those of a Ship Railway, owing to the following causes :

1. The difference in level between the tides of the two Bays.
2. The source, quantity, and quality of water supply for the Canal and lockage.
3. Its great cost to construct.
4. Its inefficiency when complete.

It may not be generally known that the Bay of Fundy is about twenty feet higher than Baie Verte at high tide, and about eighteen feet lower at low tide; that while the mean sea level is the same in each case, the spring tides oscillate above and below this mean sea level, like a pendulum, with a stroke of thirty-eight feet in the Bay of Fundy and ten feet in the Baie Verte, the *average* rise of tide at the head of the Bay of Fundy being thirty-six and a half feet, and in the Baie Verte five and a half feet. The popular idea of seventy feet rise and fall is entirely erroneous, the greatest rise and fall ever known, at the Saxby gale in October, 1869, being fifty-two feet and a half.

Many theories have been started by intelligent people, and are now current, which would not for a moment stand a scientific test. Among these may be mentioned the idea that there was a river between Nova Scotia and New Brunswick; that the ancient bed, as it was called, had only to be cleared out, and there would then be a great water way opened up like the Strait of Canso. All this is purely imaginary; there is no indication whatever of such ancient river bed. I have taken borings from water to water, and found rock everywhere ranging from one foot to twelve feet below the surface of the ground. Supposing, however, such a river were found, or could be artificially made, could anybody tell the result? At high water the current would be eastward from the Bay of Fundy, and at low water westward from the Baie Verte. The channel would be full of dangerous rapids. If a Canal without locks were practicable it would certainly be preferable to one with locks. But it is not practicable. Besides the difference of level between the two seas, necessitating at least four large locks, there remains the difficulty of water supply. All the fresh water available on the Isthmus would not alone supply a Canal of the dimensions now required. It must be supplemented from some other source. The Bay of Fundy

8 *The Baie Verte Canal. Would it Pay?*

water is too turbid and full of sediment to be used. The Canal would rapidly fill up or require constant dredging. Reservoirs of the adjoining rivers have been proposed, but there are great objections to these, as they would interfere with the drainage of the marshes, and would themselves fill up. The waters of the Baie Verte, without resort to the constant expense of pumping up of the water from the lower level, are not available.

I contend that no expense is too great for any practicable short cut for the products of the North Shore and Prince Edward Island to St. John and the Eastern States, their natural market; but I would have that expenditure made upon the public work that would be most serviceable for the purpose. The traffic, to compete with railway carriage and by Straits of Canso, must be conveyed at a reasonable degree of speed. Now, the speed of steamers through the Suez Canal, where there are no locks, averages two and a half miles an hour. At that rate it would take ten hours to steam through the proposed Baie Verte Canal, besides the time required for lockage, making altogether twenty-four hours from Charlottetown to St. John. For sailing vessels, unless they were towed, it would take as long as sailing through the Straits of Canso—the detention from the prevailing contrary southwesterly wind, in sailing from Gulf to Bay, would be very great. No one could estimate it.

By the Ship Railway the transit can be made in two hours, thus enabling the voyage from Prince Edward Island to St. John to be made in twelve hours, a saving of just one half the time a Canal would take. The time of transit of sailing vessels would of course be the same as that for steamers, namely; from one to two hours, according to size.

The repairs and maintenance of a Canal would be far more expensive than a Ship Railway, owing to its being an exclusively hydraulic work, liable to injury by frost and ice, and to filling up with mud.

It would be closed up by ice earlier in the season and later in the spring, thus losing the advantage that the Ship Railway will have in transporting vessels before the Straits of Canso are open to navigation. In this way at least a month may be gained in the season. In other words, the Ship Railway would be open for seven months and the Canal six months.

But now to refer to an important point. The Ship Canal, as designed by the Government Engineers, and ranging in estimated cost from \$5,650,000 to \$8,500,000, could not pass any of the paddle steamers now plying in the Gulf and Bay. The locks were only forty feet wide; to widen them, and also the Canal, in order to pass such steamers, would add at least twenty-five per cent. to the estimates. The importance of this defect may be realized by the fact that at least one-half the tonnage of the Dominion coasting trade is carried in paddle-wheelers, and this will always continue so because of the shallow harbors necessitating that kind of steamers. (See Trade and Navigation Reports.) The Ship Railway will carry this class of steamer, and in fact all classes of vessels up to 1,000 tons register.

When we ask if any public work will pay, we should consider the indirect return and benefits as well as the direct return.

The great work of overcoming the obstacle that nature has placed between the waters of two sections of this Dominion, which has taxed the ingenuity of engineers for more than half a century, is worth any cost. Ten, or even twenty millions, is little enough to pay for the development of the shipping interests, the fishing interests, the lumber interests, the mining interests, the quarrying interests, the farming interests, the opening up of new sections of country, the bringing of products to markets now not easily reached, and all the other advantages that will follow the successful accomplishment of this Isthmian transit; but the Ship Railway is the best (if not the only) method of removing this great impediment to commerce. There is no necessity of throwing money away on a Canal when the Ship Railway will cost the country so much less. The cost of the Ship Canal was estimated by Mr. PAGE in 1873 at \$8,500,000. The interest on this at four per cent. is \$340,000 a year. The cost of the Ship Railway is at most only \$170,000 a year, the capital being found by the Company. The subsidy capitalized for twenty years, at four per cent., is only \$2,343,000. Thus the Ship Railway, which will be so much more serviceable than a Canal, will cost \$6,157,000 less than a Canal at first cost, besides saving the annual interest of \$340,000 a year, and the maintenance and repairs, which are simply not to be calculated. In face of these figures, and of the fact that the proposed Canal would not have accommodated the paddle-wheel steamers, what Government would now entertain the idea of building a Canal in place of the Ship Railway? Had the Canal been proceeded with, the country would have committed an error, involving the most serious consequences, to be regretted only once, and that would be for ever.

I remain, your obedient servant,

H. G. C. KETCHUM.

Fredericton, Aug. 23, 1887.

The Chignecto Ship Railway.

WILL IT PAY?

UNDER this caption Mr. H. G. C. KETCHUM has published a letter dealing with the paying prospects of the Chignecto Ship Railway. We have always believed that the Ship Railway, once constructed, would prove a remunerative investment to the promoters. That will, of course, depend upon the amount of business and the cost of doing it. There is no question of the practicability of the scheme so far as taking up vessels on hydraulic lifts and transporting them by rail from the Bay to the Gulf, and *vice versa*. Nor is there any question that a sufficient business to make the Ship Railway a paying one is now ready for its opening. The traffic is now divided and scattered, it is true, but needs only the facilities which the Ship Railway will offer to concentrate it there. Traffic of the Gulf ports of New Brunswick, Nova Scotia, and Prince Edward Island, seeking southern waters, looks now to the Strait of Canso or around the Island of Cape Breton, an enormously circuitous route. But the only alternatives are by transshipment to the rails at Pictou or Shediac. The Ship Railway will bring the vessel full freighted from the Gulf to the Bay without breaking bulk, and will enable the steamer now making one trip a week from Charlottetown to Boston and return, to make two trips per week.

We have built railways, trusting for them to develop a traffic on which to subsist. Here we have a large traffic already in existence, but conducted by circuitous routes, which must as certainly seek the new route as certainly as the traffic of the East sought the Suez Canal when it was opened, rather than continue its old-time route round the Cape of Good Hope. One of the greatest of modern engineering achievements was the Suez Canal. It has revolutionized the commerce of the East, proved a factor in international politics of prime importance, and pays handsomely besides. The Chignecto Ship Railway, in proportion to its cost, bids fair to be even more important and profitable.

Our people have confidence in the project, and desire to see its early construction. There is, we believe, only one difficulty in the way of the almost immediate commencement of the work. It arises from the fact that the Dominion guarantee of \$170,600 per annum for twenty years is not available for the work of construction. Surely this matter can be made right. The company do not ask a cent more than is promised, but they want it in an available way.

There is, fortunately, no politics in this Ship Railway scheme, and there is great unanimity of favor for it throughout New Brunswick,

Prince Edward Island, and the Gulf and Bay Shore of Nova Scotia. Any Government in Canada should furnish whatever facilities they can to aid it. And we venture to believe that the early construction of a work which promises to be so fruitful of good to our trade and commercial interests would go far to aid in removing present causes of discontent in the maritime section of Canada.

[From the *Chignecto Post*, Aug. 11, 1887.]

WHEN one considers the startling fact that there is practically no intercourse to-day between the Gulf of St. Lawrence and the continent south by vessels, that Nova Scotia operates as a complete barrier to a trade that forms two-thirds of the business of the Bay of Fundy ports, no further argument seems needed to prove the commercial necessity of Isthmian transit.

[From the *Daily Sun*, July 8, 1887.]

A RECENTLY published pamphlet makes a strong case for the Chignecto Ship Railway. On two or three points the argument is conclusive. In fact, it needs no argument to show that the scheme is practicable. The marine slip may be seen in operation any day, and so may the hydraulic ship lift. There is nothing in the working of this Ship Railway project which is not found in these. Nor is there any question that the Ship Railway would, if constructed and put into satisfactory operation, be of great service to commerce. The mere fact that it shortens the distance from the Gulf ports to New England and Bay of Fundy ports by 500 miles at the least, and some 800 miles at the farthest, reducing the distance by from fifty to ninety per cent., is proof of this. Shippers will, other things being equal, take the shortest, quickest, and safest route.

It is now sixty-six years since the first survey was made looking toward a course for vessels across the Isthmus of Chignecto. These surveys were made before 1830. The Canal project was condemned at length on the strength of a stupidly inaccurate report of the chairman of the Commission of 1873. This railway scheme has come in its place. According to the proposition made to the Government and accepted by them, with the subsequent approval of Parliament, a subsidy of \$170,000 for twenty years is available for the work, all the risk of its success being taken by the Company constructing. It was believed that a Company then formed would construct the road on these terms, but for some reason no progress has been made up to the present time. The real difficulty has not been made known, and there is no explanation in the pamphlet to which we have referred. Mr. H. G. C. KETCHUM, who represents the Company here, and who is the chief promoter of the enterprise, is full of energy and persistence. He deserves to succeed. If he can do what has puzzled statesmen and engineers for nearly a century, namely, obliterate the portage between the Gulf of St. Lawrence

and the Bay of Fundy, the public of the Maritime Provinces will hold him in high honor, and will not grudge him all the money he can honestly make out of it.

[From the *Daily Telegraph*, July 21, 1887.]

SOME time since, in speaking of the Chignecto Marine Railway, we mentioned the fact that Sir LEONARD TILLEY, speaking in the House of Assembly in 1866, stated the construction of the Baie Verte Canal would, at an early day, be undertaken by the Government. We further observed that the Canal, having been abandoned, and the Ship Railway chartered in its stead, it is surely not too much to ask, after waiting twenty years, that the General Government shall assist the enterprising projector of the present scheme in such a manner as may secure its completion. *The Telegraph's* statement has been quoted by the *Manitoba Free Press*, which adds: "*The Telegraph* certainly has a mild way of putting things." Our prairie contemporary is right; we have put the claims of the Ship Railway most mildly. It was twenty years ago that the promise of an early short cut from the Bay to the Gulf was made. That was before there was a Dominion, and long before there was a Province of Manitoba. It was before we had acquired the North-west Territories. Since that promise was made Winnipeg has grown to be the fine capital it is; the Great Lone Land has been belted with railways, and thousands of miles of railways besides have been either built or subsidized by Government aid. Yet the old promise of the Baie Verte Canal is still unfulfilled. Honors and titles have come to the man who promised, and to his colleagues who have not performed what the people of the Eastern Provinces felt they might justly expect, but the short cut for ships between the Gulf and the Bay is not yet commenced.

We have had a marvellous patience in this matter, and have waited too long. When the Pacific Railway was completed we were told that now something would be done in the Eastern Provinces. When is this to be realized? Of the railway subsidies granted this year, more than half go to Quebec Province. Meanwhile New Brunswick and Prince Edward Island, the two worst used Provinces in the Dominion (because the National Policy injures both without compensating advantages), are waiting for the Ship Railway. Surely it is not too much to ask that the General Government shall so assist the present scheme as to secure its early completion. We put it mildly, yet our case is very strong.

